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OMRON®

**Jameco Part Number 187151**

# PCB Relay

# G5LE

## A Cubic, Single-pole 10-A Power Relay

- Subminiature “sugar cube” relay
- Contact ratings of 10 A
- Withstands impulses of up to 4,500 V
- Two types of seal available: flux protection and plastic-sealed
- UL class-B insulation certified, UL class-F available
- Ideal for applications in security equipment, household electrical appliances, garage door openers, and audio equipment

## Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G5LE-1-*DC12*).

| Seal | Contact form | Part number<br>Contact material<br>$AgSnO_2$ | AgCdO | AgSnIn |
|---|---|---|---|---|
| Flux protection | SPDT | **G5LE-1** | **G5LE-1-ACD** | **G5LE-1-ASI** |
| | SPST-NO | **G5LE-1A** | **G5LE-1A-ACD** | **G5LE-1A-ASI** |
| Plastic-sealed | SPDT | **G5LE-14** | **G5LE-14-ACD** | **G5LE-14-ASI** |
| | SPST-NO | **G5LE-1A4** | **G5LE-1A4-ACD** | **G5LE-1A4-ASI** |

### ■ MODEL NUMBER LEGEND

**G5LE-□ □ □-□ -□**
**1 2 3 4 5**

**1. Number of Poles**
1: 1 pole

**2. Contact Form**
None: SPDT
A: SPST-NO

**3. Sealing**
None: Flux-protection
4: Plastic-sealed

**4. Contact Material**
None: $AgSnO_2$
ACD: AgCdO
ASI: AgSnIn

**5. Insulation Class**
None: Class B insulation
CF: Class F insulation

# Specifications

## ■ COIL DATA

| Rated voltage | 3 VDC | 5 VDC | 6 VDC | 9 VDC | 12 VDC | 24 VDC | 48 VDC |
|---|---|---|---|---|---|---|---|
| Rated current | 136.4 mA | 79.4 mA | 66.7 mA | 45 mA | 33.3 mA | 16.7 mA | 8.33 mA |
| Coil resistance | 22.5 Ω | 63 Ω | 90 Ω | 200 Ω | 360 Ω | 1,440 Ω | 5,760 Ω |
| Must operate voltage | 75% of rated voltage (max.) | | | | | | |
| Must release voltage | 10% of rated voltage (min.) | | | | | | |
| Max. voltage | 130% of rated voltage at 70°C (158°F), 170% of rated voltage at 23°C (73°F) | | | | | | |
| Power consumption | Approx. 400 mW | | | | | | |

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.
2. 360 mW coil is available. Contact Omron for details.
3. VDE approved model available. Contact Omron for details.

## ■ CONTACT DATA

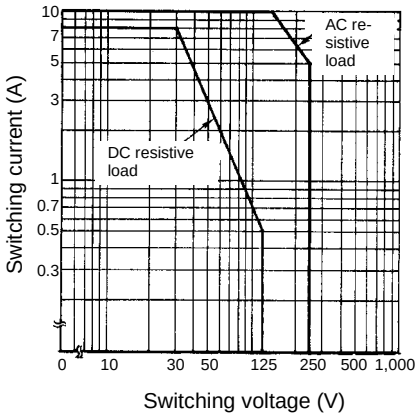
| Load | | Resistive load (cosϕ = 1) |
|---|---|---|
| Rated load | | 10 A at 120 VAC; 8 A at 30 VDC |
| Rated carry current | | 10 A |
| Max. switching voltage | | 250 VAC, 125 VDC |
| Max. switching current | AC | 10 A |
| | DC | 8 A |
| Max. switching capacity | | 1,200 VA, 240 W |
| Min. permissible load | | 100 mA at 5 VDC |

## ■ CHARACTERISTICS

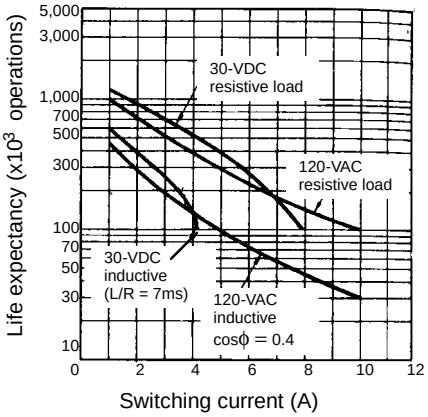
| Contact resistance | | 100 mΩ max. |
|---|---|---|
| Operate time | | 10 ms max. |
| Release time | | 5 ms max. |
| Bounce time | Operate | Approx. 0.6 ms |
| | Release | Approx. 7.2 ms |
| Max. switching frequency | Mechanical | 18,000 operations/hr |
| | Electrical | 1,800 operations/hr (under rated load) |
| Insulation resistance | | 100 MΩ min. (at 500 VDC) |
| Dielectric strength | | 750 VAC, 50/60 Hz for 1 min between contacts of same polarity<br>2,000 VAC, 50/60 Hz for 1 min between coil and contacts |
| Impulse withstand voltage | | 4,500 V between coil and contacts |
| Vibration resistance | Destruction | 10 to 55 Hz, 1.5-mm double amplitude |
| | Malfunction | 10 to 55 Hz, 1.5-mm double amplitude |
| Shock resistance | Destruction | 1,000 $m/s^2$ (approx. 100G) |
| | Malfunction | 100 $m/s^2$ (approx. 10G) |
| Life expectancy | Mechanical | 10,000,000 operations min. (at 18,000 operations/hr) |
| | Electrical | 100,000 operations min. (at 1,800 operations/hr) |
| Ambient temperature | Operating | −40°C to 85°C (−13°F to 185°F) |
| Ambient humidity | | 35% to 85% |
| Weight | | Approx. 12 g (0.42 oz) |

## ■ CHARACTERISTIC DATA

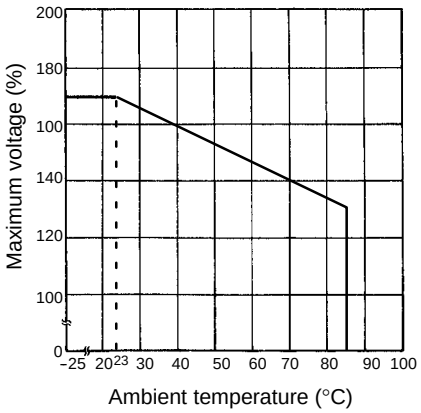
**Max. Switching Capacity G5LE**




**Life Expectancy G5LE**



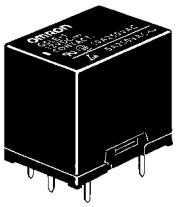

**Ambient Temperature vs. Maximum Voltage**

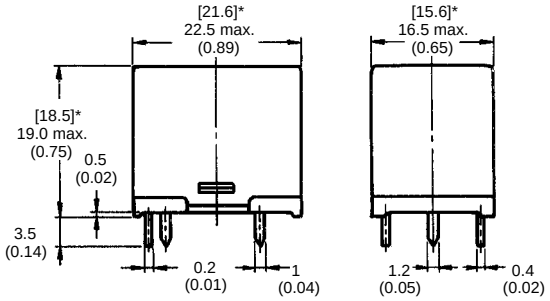



# Dimensions

Unit: mm (inch)

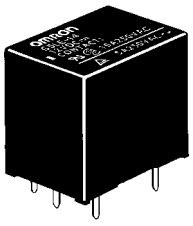
### ■ G5LE-1(A)

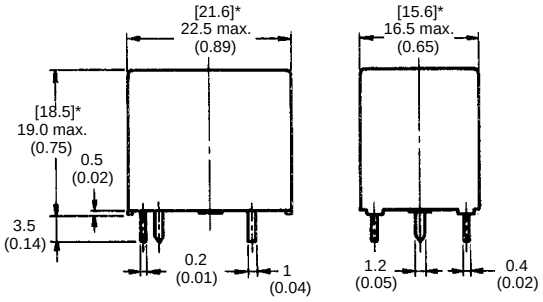





*Average value

### ■ G5LE-1(A)4



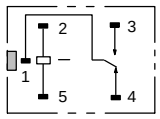



*Average value

## ■ STANDARD

**Terminal Arrangement/ Internal Connections (Bottom View)**

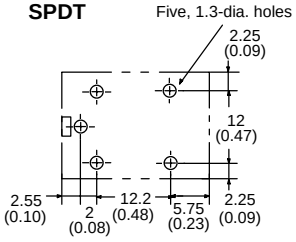
**SPDT**



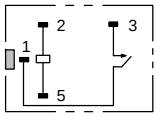

**Mounting Holes (Bottom View)**

Tolerance: ±0.1 mm

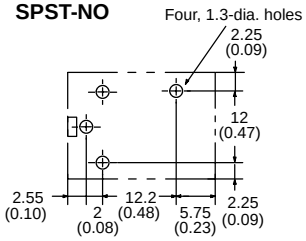
**SPDT**




**SPST-NO**




**SPST-NO**




Note**:** Orientation marks are indicated as follows:

## ■ APPROVALS

**UL325, UL508, UL1409, UL1950 (File No. E41643)**

| Part number | Coil rating | Contact rating |
|---|---|---|
| G5LE | 3 to 48 VDC | 5 A, 250 VAC (general use)<br>5 A, 30 VDC (resistive load)<br>125 VA, 120 VAC (P.D 100,000 cycles)<br>5 A, 125 VAC (G.P), 30K, 70°C (158°F)<br>NO:<br>1/8 hp, 120 VAC (50,000 cycles)<br>4 FLA, 4 LRA, 120 VAC (100,000 cycles)<br>1/2 s, ON:OFF<br>Ambient temperature: 105°C (221°F)<br>5 FLA, 30 LRA, 120 VAC<br>Mechanical life: 100,000 cycles<br>TV-3, 120 VAC<br>NC:<br>1/10 hp, 120 VAC (50,000 cycles)<br>2 FLA, 4 LRA, 120 VAC (100,000 cycles)<br>1/2 s, ON:OFF<br>Ambient temperature: 105°C (221°F) |
| | | 10 A, 250 VAC (general use)<br>8 A, 30 VDC (resistive load)<br>NO:<br>1/6 hp, 120 VAC (50,000 cycles)<br>1/3 hp, 125 VAC, 30K, 70°C (158°F)<br>NC:<br>1/8 hp, 120 VAC (50,000 cycles) |

Note: Only part numbers with the suffix “ASI” are TV-5 approved.

**CSA C22.2 NO. 14 (File No. LR34815)**

| Part number | Coil rating | Contact rating |
|---|---|---|
| G5LE | 3 to 48 VDC | 5 A, 250 VAC (general use)<br>5 A, 30 VDC (resistive load)<br>125 VA, 120 VAC (P.D 100,000 cycles)<br>5 A, 125 VAC (G.P), 30K, 70°C (158°F)<br>NO:<br>1/8 hp, 120 VAC (50,000 cycles)<br>TV-3<br>NC:<br>1/10 hp, 120 VAC (50,000 cycles) |
| | | 10 A, 250 VAC (general use)<br>8 A, 30 VDC (resistive load)<br>6 A, 277 VAC (general use), 100K<br>NO:<br>1/6 hp, 120 VAC (50,000 cycles)<br>1/3 hp, 125 VAC, 70°C (158°F) 30K<br>NC:<br>1/10 hp, 120 VAC (50,000 cycles) |

Note: Only part numbers with the suffix “ASI” are TV-5 approved.

**TÜV (VDE File No. R9151267)**

| Part number | Coil rating | Contact rating |
|---|---|---|
| G5LE | 3, 5, 6, 9, 12, 24 VDC | 1.2 A, 250 VAC ($\cos\phi$ = 0.4)<br>2.5 A, 250 VAC (resistive load)<br>5 A, 30 VDC (resistive load) |
| | | 2.5 A, 250 VAC ($\cos\phi$ = 0.4)<br>5 A, 250 VAC (resistive load)<br>8 A, 30 VDC (resistive load) |

**NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

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